ADAPTIVELY ENCODING A PICTURE OF CONTRASTED COMPLEXITY HAVING NORMAL VIDEO AND NOISY VIDEO PORTIONS
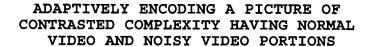
Abstract of the Disclosure

5   A technique is provided for adaptively encoding
in hardware, software or a combination thereof a
sequence of frames in real time, wherein one or more
of the frames includes a random noise portion. The
technique includes using statistics analysis to
10   determine whether a current frame includes a random
noise portion, and if so, to evaluate and dynamically
encode each macroblock thereof based on activity
level of the macroblock. Evaluating macroblock
activity level includes determining whether its
15   activity level exceeds a predefined threshold
indicative of random noise. The macroblock is
adaptively encoded by adjusting one or more coding
parameters if the macroblock activity level is
excessive and its target bitrate is low. For
20   example, when the macroblock is within the random
noise portion of the frame, the macroblock is biased
towards being coded predictive and an adjusted
quantization level is calculated to conserve bits
used in encoding the macroblock, thereby moving
25   encode bits from macroblocks within the random noise
portion of the frame to macroblocks within the normal
portion of the frame.